water. In the case of gel solutions, the tissue repair composition may be in a flowable gel form prior to delivery at the target site, or may form a gel and remain in place after delivery at the target site. Flowable gel solutions may comprise one or more gelling materials with or without added water, saline, or a physiological buffer solution. Suitable gelling materials include biological and synthetic materials. Exemplary gelling materials include proteins, polysaccharides, polynucleotides, and other materials such as alginate, cross-linked alginate, poly(N-isopropylacrylamide), poly(oxyalkylene), copolymers of poly(ethylene oxide)-poly(propylene oxide), poly (vinyl alcohol), polyacrylate, or monostearoyl glycerol co-Succinate/polyethylene glycol (MGSA/PEG) copolymers, and combinations of any of the foregoing.

[0112] Tacking buttress material (**1090**) may comprise a fibrous pad, a foam, a matrix, a mesh, or another structure, in accordance with the teachings of, by way of example, U.S. Patent App. Pub. No. 2009/0120994, entitled "Surgical Fastening Device with Initiator Impregnation of a Matrix or Buttress to Improve Adhesive Application", published May 14, 2009, the disclosure of which is incorporated by reference herein. The material may comprise, for example, a biocompatible material that is a buttress, a matrix having a plurality of openings therein, an open cell or closed cell foam, and/or a fabric pad. The material may include porosities that induce a wicking feature to drawing adhesive into the material and ensure the openings remain clear of the adhesive, allowing tissue growth through the openings after application to tissue.

[0113] Additionally or alternatively, tacking buttress material (**1090**) may be comprised of an adhesive such as, but not limited to, polymerizable and/or cross-linkable materials such as a cyanoacrylate adhesive. The adhesive, for example, may be a monomeric (including prepolymeric) adhesive composition, a polymeric adhesive composition, or any other compound that can adhere to tissue. In embodiments, the monomer may be a 1,1-disubstituted ethylene monomer, e.g., an alpha-cyanoacrylate. When cross linked or polymerized, the cyanoacrylate can change from a liquid to a solid. Polymerized adhesives for example, can be formulated to be flexible to rigid and could be spongy. If desired, the adhesive can be a single part or dual part adhesive, and/or can contain additives such as alternate compounds. Polymerization of the adhesive can occur from, but is not limited to, exposure to moisture, heat, and/or adhesion initiators such as those described in U.S. Patent App. Pub. No. 2009/0120994, the disclosure of which is incorporated by reference above. Other suitable materials and compositions that may be used to form tacking buttress material (**1090**) will be apparent to those of ordinary skill in the art in view of the teachings herein.

[0114] E. Exemplary Tissue Tacking Needle

[0115] Instead of using an end effector (**40**, **140**, **240**, **340**, **440**, **540**, **640**, **840**, **940**, **1040**) to apply fasteners (**180**, **280**, **380**, **480**, **580**, **680**, **780**, **880**, **980**, **1080**), fasteners (**180**, **280**, **380**, **480**, **580**, **680**, **780**, **880**, **980**, **1080**) may be applied separately with a needle (**1100**). FIGS. **28**A-**28**D show an exemplary tissue tacking needle (**1100**). Needle (**1100**) comprises an opening (**1104**) extending through needle (**1100**), and a slot (**1102**) adjacent to opening (**1104**) on a distal end of needle (**1100**), as shown in FIG. **28**A. The distal end of needle (**1100**) is pointed to help penetrate through tissue. A fastener (**1180**) is positioned within the distal end of needle (**1100**). Fastener (**1180**) comprises a top portion (**1182**), a bottom portion (**1186**), and a connector (**1183**) extending between the top portion (**1182**) and bottom portion (**1186**). Top portion (**1182**) and bottom portion (**1186**) are transverse to connector (**1183**) to form an "H" configuration. Connector (**1183**) comprises barbs (**1184**) extending from connector (**1183**), but barbs (**1184**) are merely optional. Fastener (**1180**) is positioned within needle (**1100**) such that top portion (**1182**) is inserted within opening (**1104**) with connector (**1183**) extending from the slot (**1102**), as shown in FIG. **28**B. A portion of connector (**1183**) and bottom portion (**1186**) remain outside of needle (**1100**). A wire (**1110**) is pushed distally through opening (**1104**) to push top portion (**1182**) of fastener (**1180**) out of needle (**1100**) to deploy fastener (**1180**), as shown in FIGS. **28**C-**28**D.

[0116] An end effector (**40**) may be operated as described above to sever and thermally seal tissue layer portions (**2**). After end effector (**40**) is removed, needle (**1100**) may be inserted through the trocar. Needle (**1100**) may be positioned adjacent to the sealed portion of tissue (**2**) where reinforcement is desired. Needle (**1100**) may then be pushed through tissue (**2**) until bottom portion (**1186**) of fastener (**1180**) contacts the bottom surface of tissue (**2**). Wire (**1110**) is then pushed distally within opening (**1104**) to deploy top portion (**1182**) of fastener (**1180**) out of slot (**1102**). Top portion (**1182**) then rests against the top surface of tissue (**2**) to hold fastener (**1180**) in place. Needle (**1100**) may then be removed from tissue (**2**). Needle (**1100**) may then be reloaded with another fastener (**1180**) if additional reinforcement is desired. Needle (**1100**) and fastener (**1180**) may also be incorporated into an end effector (**40**), such that end effector (**40**) may include a set of needles (**1100**) and fasteners (**1180**).

[0117] III. Miscellaneous

[0118] It should be understood that any of the versions of electrosurgical instrument (**10**) described herein may include various other features in addition to or in lieu of those described above. By way of example only, any of the devices herein may also include one or more of the various features disclosed in any of the various references that are incorporated by reference herein.

[0119] It should also be understood that any of the devices described herein may be modified to include a motor or other electrically powered device to drive an otherwise manually moved component. Various examples of such modifications are described in U.S. Pub. No. 2012/0116379, entitled "Motor Driven Electrosurgical Device with Mechanical and Electrical Feedback," published May 10, 2012, the disclosure of which is incorporated by reference herein. Various other suitable ways in which a motor or other electrically powered device may be incorporated into any of the devices herein will be apparent to those of ordinary skill in the art in view of the teachings herein.

[0120] It should also be understood that any of the devices described herein may be modified to contain most, if not all, of the required components within the medical device itself. More specifically, the devices described herein may be adapted to use an internal or attachable power source instead of requiring the device to be plugged into an external power source by a cable. Various examples of how medical devices may be adapted to include a portable power source are disclosed in U.S. Provisional Application Ser. No. 61/410,603, filed Nov. 5, 2010, entitled "Energy-Based Surgical Instruments," the disclosure of which is incorporated by reference herein. Various other suitable ways in which a power source may be incorporated into any of the devices herein will be apparent to those of ordinary skill in the art in view of the teachings herein.